

Australian/New Zealand Standard™

**Systems and software engineering—  
Systems and software assurance**

**Part 2: Assurance case**



## **AS/NZS ISO/IEC 15026.2:2013**

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-015, Software and Systems Engineering. It was approved on behalf of the Council of Standards Australia on 6 May 2013 and on behalf of the Council of Standards New Zealand on 29 April 2013.

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*This Standard was issued in draft form for comment as DR AS/NZS ISO/IEC 15026.2.*

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Australian/New Zealand Standard™

# **Systems and software engineering— Systems and software assurance**

## **Part 2: Assurance case**

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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software and Systems Engineering.

The objective of this Standard is to ensure the existence of types of assurance case content and restrictions on assurance case structure, thereby improving consistency and comparability among instances of assurance cases and facilitating stakeholder communications, engineering decisions, and other uses of assurance cases.

This Standard is identical with, and has been reproduced from ISO/IEC 15026-2:2011, *Systems and software engineering—Systems and software assurance—Part 2: Assurance case*.

As this Standard is reproduced from an International Standard, the following applies:

- (a) In the source text ‘this part of ISO/IEC 15504’ should read ‘this Australian/New Zealand Standard’.
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| <i>Reference to International Standard</i>                                                                                               | <i>Australian/New Zealand Standard</i>                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| ISO/IEC TR                                                                                                                               | SA/SNZ TR                                                                                                                                |
| 15026 Systems and software engineering—<br>Systems and software assurance                                                                | 15026 Systems and software engineering—<br>Systems and software assurance                                                                |
| 15026-1 Part 1: Concepts and vocabulary                                                                                                  | 15026.1 Part 1: Concepts and vocabulary                                                                                                  |
| ISO/IEC                                                                                                                                  | AS/NZS ISO/IEC                                                                                                                           |
| 15289 Systems and software engineering—<br>Content of systems and software life<br>cycle process information products<br>(Documentation) | 15289 Systems and software engineering—<br>Content of systems and software life<br>cycle process information products<br>(Documentation) |

## CONTENTS

|              |                                                               |          |
|--------------|---------------------------------------------------------------|----------|
| <b>1</b>     | <b>Scope .....</b>                                            | <b>1</b> |
| <b>2</b>     | <b>Conformance .....</b>                                      | <b>1</b> |
| <b>3</b>     | <b>Normative references .....</b>                             | <b>1</b> |
| <b>4</b>     | <b>Terms and definitions .....</b>                            | <b>1</b> |
| <b>5</b>     | <b>Use of this part of ISO/IEC 15026.....</b>                 | <b>1</b> |
| <b>6</b>     | <b>Structure and contents of an assurance case .....</b>      | <b>2</b> |
| <b>6.1</b>   | <b>General .....</b>                                          | <b>2</b> |
| <b>6.2</b>   | <b>Overall structure.....</b>                                 | <b>3</b> |
| <b>6.3</b>   | <b>Claims .....</b>                                           | <b>5</b> |
| <b>6.3.1</b> | <b>Form of claim .....</b>                                    | <b>5</b> |
| <b>6.3.2</b> | <b>Claim contents.....</b>                                    | <b>5</b> |
| <b>6.3.3</b> | <b>Coverage of conditions.....</b>                            | <b>5</b> |
| <b>6.3.4</b> | <b>Justification of the choice of top-level claims .....</b>  | <b>5</b> |
| <b>6.4</b>   | <b>Arguments.....</b>                                         | <b>6</b> |
| <b>6.4.1</b> | <b>Argument characteristics .....</b>                         | <b>6</b> |
| <b>6.4.2</b> | <b>Justification of argument's method of reasoning.....</b>   | <b>6</b> |
| <b>6.5</b>   | <b>Evidence .....</b>                                         | <b>6</b> |
| <b>6.5.1</b> | <b>Evidence contents.....</b>                                 | <b>6</b> |
| <b>6.5.2</b> | <b>Associated information.....</b>                            | <b>6</b> |
| <b>6.5.3</b> | <b>Associated assumptions .....</b>                           | <b>6</b> |
| <b>6.6</b>   | <b>Assumptions .....</b>                                      | <b>7</b> |
| <b>6.6.1</b> | <b>Form of Assumption .....</b>                               | <b>7</b> |
| <b>6.6.2</b> | <b>Assumption contents.....</b>                               | <b>7</b> |
| <b>6.6.3</b> | <b>Associated evidence .....</b>                              | <b>7</b> |
| <b>6.7</b>   | <b>Justifications .....</b>                                   | <b>7</b> |
| <b>6.8</b>   | <b>Combining assurance cases .....</b>                        | <b>7</b> |
| <b>7</b>     | <b>Required outcomes of using Part 2 assurance case .....</b> | <b>7</b> |
| <b>7.1</b>   | <b>Outcomes .....</b>                                         | <b>7</b> |
| <b>7.2</b>   | <b>Mapping to this part of ISO/IEC 15026 .....</b>            | <b>8</b> |
|              | <b>Bibliography.....</b>                                      | <b>9</b> |

## INTRODUCTION

The purpose of this part of ISO/IEC 15026 is to ensure the existence of types of assurance case content and restrictions on assurance case structure, thereby improving consistency and comparability among instances of assurance cases and facilitating stakeholder communications, engineering decisions, and other uses of assurance cases.

Existing standards addressing different application areas and topics related to assurance cases might use differing terminology and concepts when addressing common themes. This part of ISO/IEC 15026 is based on experience drawn from these many specialized standards and guidelines. It is applicable to any property of a system or product.

**NOTE** It is intended that ISO/IEC TR 15026-1 will be transformed into an International Standard.

In addition to concepts and terminology, ISO/IEC TR 15026-1 provides background and a list of related standards that could be useful in understanding and using this part of ISO/IEC 15026. Assurance cases are generally developed to support claims in areas such as safety, reliability, maintainability, human factors, operability, and security, although these assurance cases are often called by more specific names, e.g. safety case or reliability and maintainability (R&M) case.

This part of ISO/IEC 15026 uses the terminology and concepts consistent with ISO/IEC 12207:2008, ISO/IEC 15288:2008, and ISO/IEC 15289:2006. This part of ISO/IEC 15026 does not presume or require that it is applied in conjunction with ISO/IEC 12207:2008 or ISO/IEC 15288:2008.

## AUSTRALIAN/NEW ZEALAND STANDARD

**Systems and software engineering—Systems and software assurance****Part 2:  
Assurance case****1 Scope**

This part of ISO/IEC 15026 specifies minimum requirements for the structure and contents of an assurance case. An assurance case includes a top-level claim for a property of a system or product (or set of claims), systematic argumentation regarding this claim, and the evidence and explicit assumptions that underlie this argumentation. Arguing through multiple levels of subordinate claims, this structured argumentation connects the top-level claim to the evidence and assumptions.

This part of ISO/IEC 15026 does not place requirements on the quality of the contents of an assurance case. Rather, it places requirements on the existence of the contents and structure of an assurance case. While several notations and slightly varying terminologies are currently used in practice, this part of ISO/IEC 15026 does not require the use of a particular terminology or graphical representation. Likewise, it places no requirements on the means of physical implementation of the data, including no requirements for redundancy or co-location.

**2 Conformance**

An assurance case conforms to this part of ISO/IEC 15026 if it meets the requirements of Clause 6 and Clause 7.

**3 Normative references**

The following referenced documents are indispensable for the application of this document.

ISO/IEC TR 15026-1, *Systems and software engineering — Systems and software assurance — Part 1: Concepts and vocabulary*

ISO/IEC 15289, *Systems and software engineering — Content of systems and software life cycle process information products (Documentation)*

**4 Terms and definitions**

For the purposes of this document, the terms and definitions given in ISO/IEC TR 15026-1 apply.

**5 Use of this part of ISO/IEC 15026**

System- or product-related needs and requirements, interactions of the system or product with its environment, and real-world events and conditions can result in an objective to obtain assurance that the system or product achieves certain claims. To meet this objective, assurance cases support these claims concerning selected